SERVICE MANUAL
SILVER
MODEL SL5050

SPECIFICATIONS

POWER SUPPLY	AC220V, 50/60Hz
POWER CONSUMPTION	5 W
DIMENSIONS	108 (H) x 385 (W) x 358 (D) mm
WEIGHT	6.7 kg

TURNTABLE

Motor	Brushless, Slotless and Coreless
Servomechanism	Frequency Generator Servo Control
Operation System	Auto Return, Auto Cut
Drive System	Direct Drive
Speeds	33-1/3 and 45 R.P.M.
Fine Adjustment Range	± 4%
Wow and Flutter	0.05% (WRMS)
Signal/Noise Ratio	70 dB (DIN–B)
Turntable-Platter	30 cm Aluminum Die-Cast

TONE ARM

Type	Static-Balance S-Shaped Tubular
Overhang	11 mm
Cartridge Weight Range	5 – 13 g

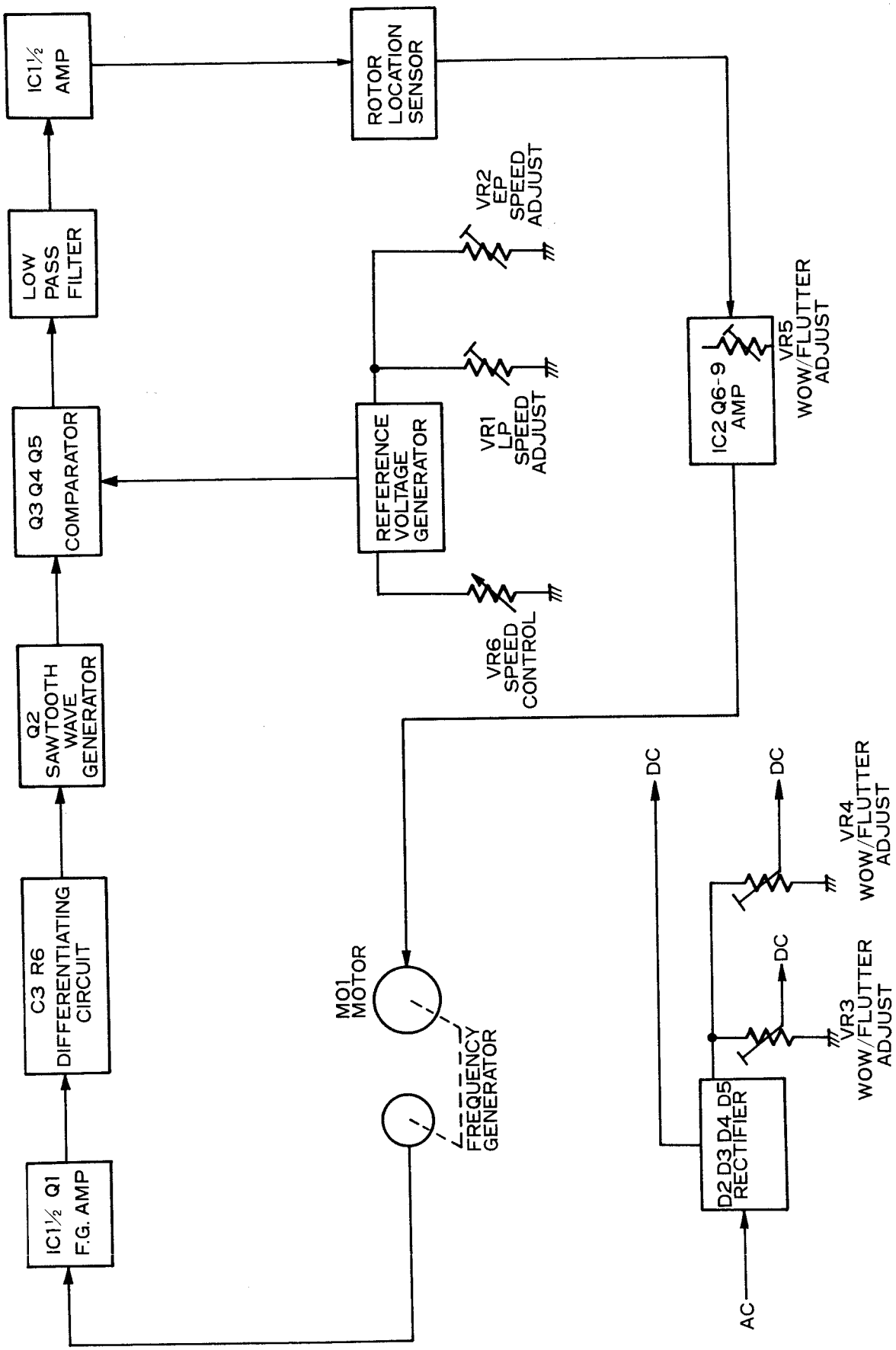
CARTRIDGE

Type	Moving Magnet
Frequency Response	15 – 25000 Hz
Output Level	3 mV
Channel Separation	18 dB Minimum
Stylus	Diamond
Stylus Pressure	2 g ± 0.5 g
Load Impedance	47 k ohm

Specifications may be changed without notice.

NOTE: **When spare parts are needed, type the quantity desired in the "ORDER Q'TY" column of the order form in this Service Manual and send copy.**

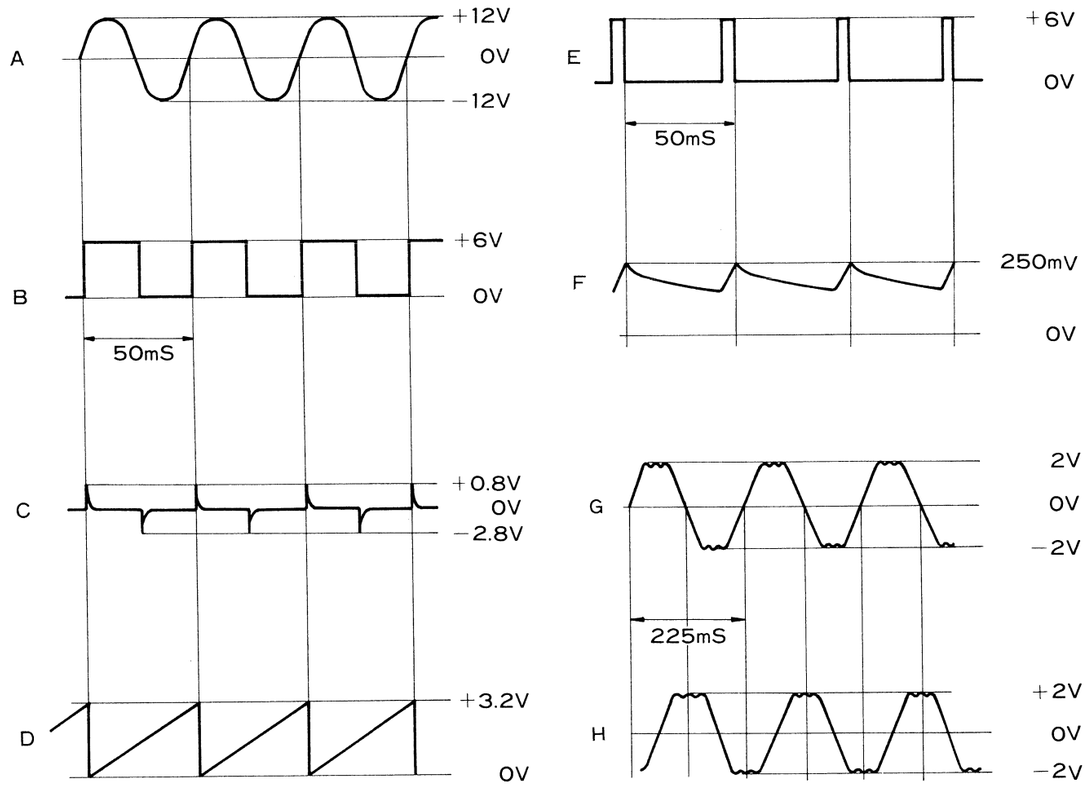
SCHEMATIC BLOCK DIAGRAM



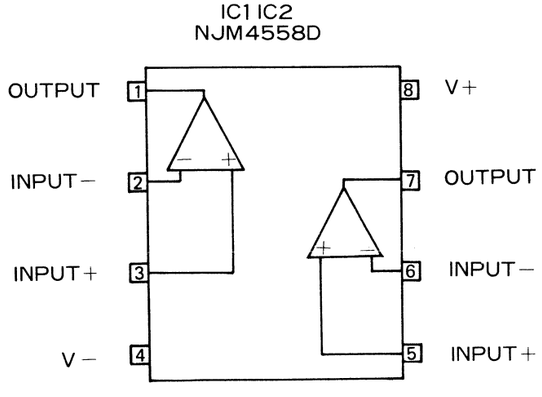
SCHEMATIC DIAGRAM NOTES

1. All resistances are 1/4W carbon unless otherwise noted. Values are in ohms. k=1000 M=1000k
2. All capacitance values are in MF unless otherwise noted. pF=MMF
3. This is a standard schematic diagram. Some set may be modified slightly for better performance.

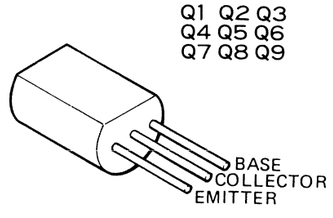
WAVEFORMS



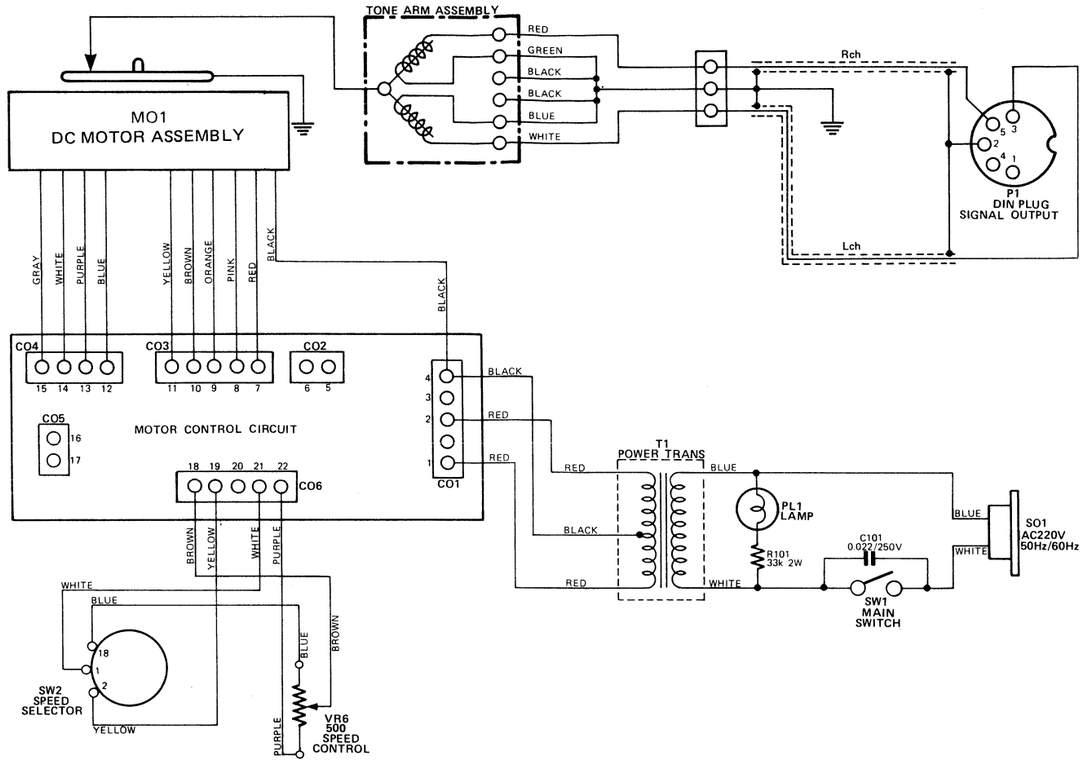
IC BLOCK DIAGRAM



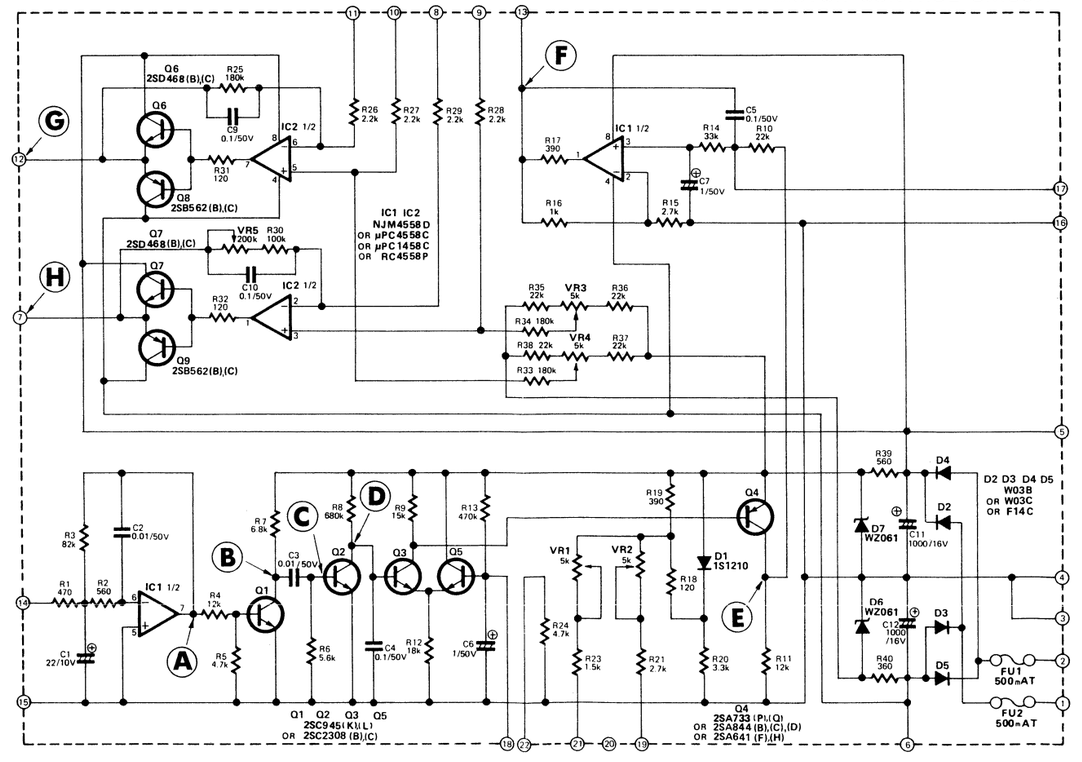
TRANSISTOR VIEW



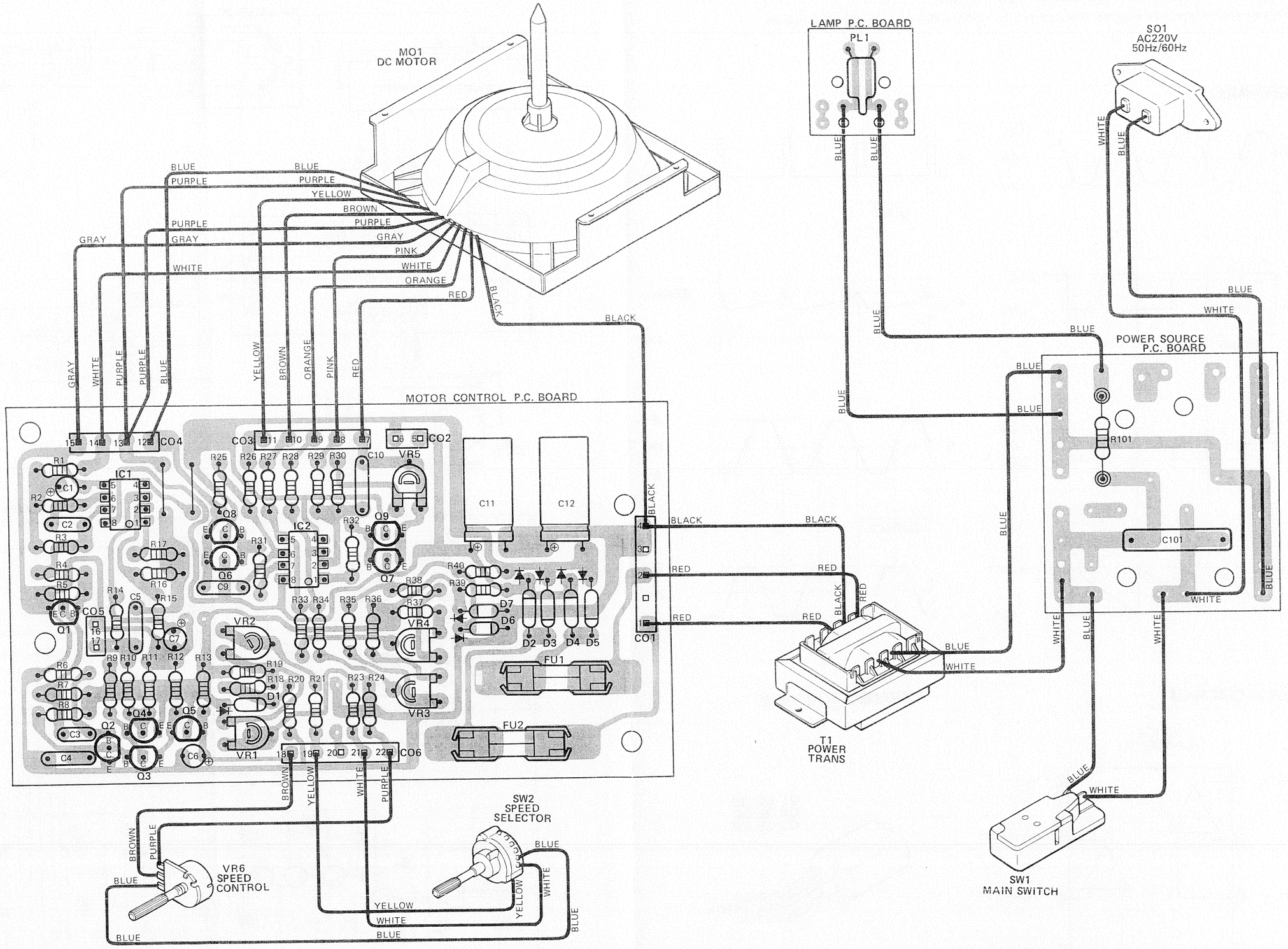
SCHEMATIC DIAGRAM



MOTOR CONTROL CIRCUIT



WIRING DIAGRAM



ELECTRICAL PARTS LIST

[MODEL SL5050]

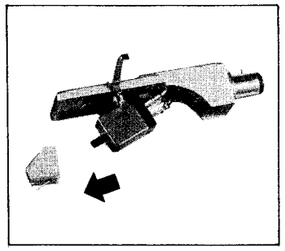
REF. NO.	DESCRIPTION	PART NO.	ORDER Q'TY		
	SEMICONDUCTORS				
IC1, 2	Integrated Circuit, Frequency Generator Amp./Amp.	5652-UPC4558C			
Q1, 2, 3, 5	Transistor (2SC945 (K)), Frequency Generator Amp., Sawtooth Wave Generator, Comparator	5613-945(K)			
Q4	Transistor (2SA733(P)), Comparator	5611-733(P)			
Q6, 7	Transistor (2SD468(B)), Amp.	5614-468(B)			
Q8, 9	Transistor (2SB562(B)), Amp.	5612-562(B)			
D1	Diode	5631-1S1210			
D2, 3, 4, 5	Diode, Rectifier	5632-W03B			
D6, 7	Zener Diode (6.1V ± 0.4V)	5635-WZ061			
	MISCELLANEOUS				
VR1, 2, 3, 4	Variable Resistor, 5 k ohm, LP Speed Adjust, EP Speed Adjust, Wow/Flutter Adjust	5101-502103H			
VR5	Variable Resistor, 200 k ohm, Wow/Flutter Adjust	5101-204103H			
VR6	Variable Resistor, 500 ohm, Speed Control	703062-4			
C2, 3	Capacitor, 0.01MF 50V Mylar	5354-103J1HM			
C4, 5, 9, 10	Capacitor, 0.1MF 50V Mylar	5354-104J1HM			
SW1	Microswitch, Main	895430-1			
SW2	Rotary Switch, Speed Selector	871224-2			
T1	Transformer, Power	872127			
SO1	AC Socket	898516			
P1	Cord with DIN Plug, Phono Output	895891-1			
PL1	Neon Lamp	897045			
FU1,2	Fuse, 500 mAT 250V	631769-3			
	Fuse Holder	704842			

NOTES:

1. **Resistors not listed in this parts list are carbon resistors.**
2. **Capacitors not listed in this parts list are ceramic or electrolytic capacitors.**

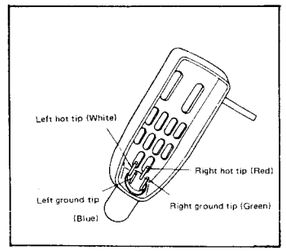
RECORD PLAYER INFORMATION

STYLUS REPLACEMENT



1. Loosen the clamp collar ring on the tone arm and remove the cartridge-shell.
   NOTE: At this time, be sure to cut off the power source of your amplifier being connected with this unit.
2. Pull the stylus out in the direction of the arrow as shown in the figure.
3. Insert the new stylus in the opposite direction of the arrow.

CARTRIDGE REPLACEMENT



When a different phono-cartridge from the attached one is used, install it using the following directions.

The weight of cartridge for this equipment should be from 5 to 13 grams.

1. To disconnect the cartridge, take out the two screws on the top of the cartridge-shell and disconnect the four wires.
2. Connect the cartridge to the cartridge-shell by the use of leads.
3. Provide a distance of 11 mm between the stylus end and the center spindle.

STYLUS PRESSURE ADJUSTMENT

1. Detach the tone arm from the tone arm rest and bring it over the turntable-platter surface. Hold the tone arm by your hand to avoid damaging the stylus.
2. While rotating the counterweight, move it forward and backward until the tone arm is balanced horizontally.
3. Supporting the counterweight by your hand, turn scale ring so that "0" graduation aligns with the line mark on the tone arm.
4. Turn the counterweight in the direction to increase a figure, and align the value of proper stylus pressure for phono-cartridge mounted on the cartridge-shell with line mark. The stylus pressure of the phono-cartridge furnished is 2 grams.

ANTI-SKATING FORCE CANCELLER ADJUSTMENT

1. Set to a figure corresponding to the stylus pressure 2 grams. The control is continuously adjustable.
2. If after adjustment, the tone arm tends to skate out, lower the setting. If it skates in, increase the setting.

TURNTABLE SPEED ADJUSTMENT

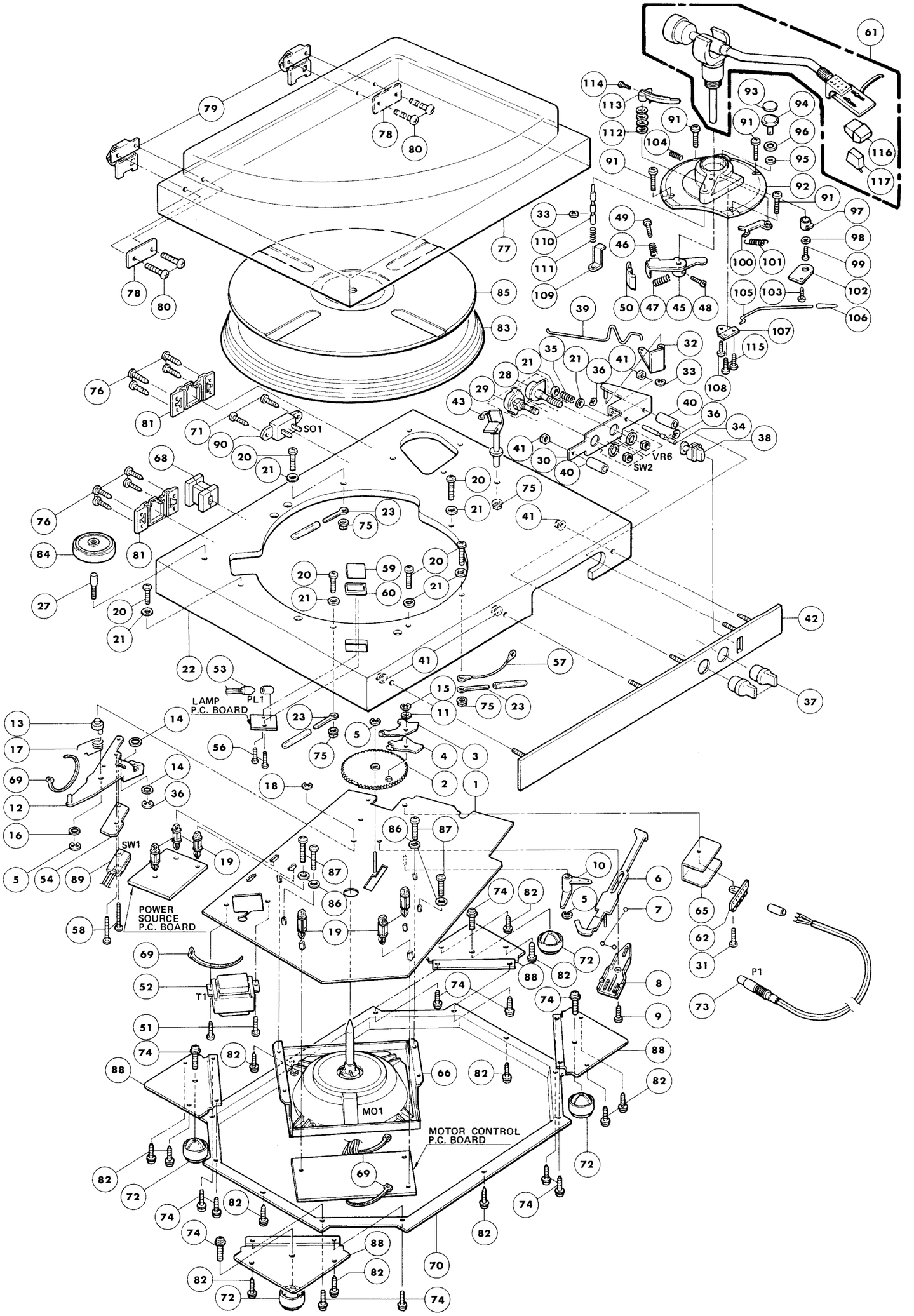
1. Set the speed control variable resistor (VR6) to the mechanical center of rotation.
2. Set the speed selector (SW2) to 33 rpm.
3. Adjust VR1 until the appropriate speed marking on the platter rim appear stationary in the illuminated stroboscope.
4. Set the speed selector (SW2) to 45 rpm.
5. Adjust VR2 until the appropriate speed marking on the platter rim appear stationary in the illuminated stroboscope.

WOW AND FLUTTER ADJUSTMENT

Equipment Required: Wow and Flutter Meter, Equalizer Amp. and Test Record (DIN 45545)

1. Connect the phono output plug (P1) to the wow and flutter meter through the equalizer amp.
2. Play back the test record.
3. Adjust VR5 for minimum reading on the meter.
4. Adjust VR3 and VR4 by turns for minimum reading on the meter.

RECORD PLAYER EXPLODED VIEW



RECORD PLAYER PARTS LIST

[MODEL SL5050]

REF. NO.	DESCRIPTION	PART NO.	ORDER Q'TY		
1	Subchassis Assembly	851893			
2	Gear Assembly	895248			
3	Clutch Plate	894901			
4	Clutch Guide	894902			
5	E-Stop Ring	E-3			
6	Actuating Arm	870933-1			
7	Steel Ball	STEEL-BALL			
8	Actuating Base	870932-1			
9	Screw (3 x 12 mm)	BT + 3 x 12			
10	Kick Lever	895431			
11	Washer (3.2 ϕ x 8 ϕ x 0.5t)	FW3.2 x 8 x 0.5			
12	Operating Plate Assembly	896487-1			
13	Different Center Pin	895073			
14	Washer (3 ϕ x 10ϕ x 0.5t)	FW3 x 10 x 0.5			
15	CS-Stop Ring	CS-3			
16	Washer (5.2ϕ x 10ϕ x 0.2t)	BW5.2 x 10 x 0.2			
17	Spring	895251			
18	E-Stop Ring	E-6			
19	P.C. Board Holder	894023			
20	Screw (3 x 16 mm)	CT + 3 x 16			
21	Washer (3ϕ x 10ϕ x 1t)	FW3 x 10 x 1			
22	Cabinet Board	847375			
23	Lug	890755			
27	Adaptor Spindle	890097			
28(VR6)	Variable Resistor, 500 k ohm, Speed Control	703062-4			
29(SW2)	Rotary Switch, Speed Selector	871224-2			
30	Bracket, Speed Control	872272			
31	Screw (3 x 8 mm)	FMT + 3 x 8			
32	Reject Lever	897574			
33	E-Stop Ring	E-3.2			
34	Shaft, Cut	898534			
35	Spring, Cut	832780-1			
36	E-Stop Ring	E-2			
37	Rotary Knob, Speed Selector, Speed Control	898518			
38	Push Button, Cut	898519			
39	Reject Spring	896722-2			
40	Spacer	898749			
41	Hexagon Nut (M4)	FN-M4			
42	Front Panel	851881			
43	Arm Rest Assembly	870632-5			
45	Forwarding Arm Assembly	893582			
46	Spring	813681			
47	Spring, Arm	801553			
48	Bolt (3 x 6 mm)	M3 x 6			
49	Bolt (3 x 20 mm)	M3 x 20			
50	Forwarding Arm Cover	894756			
51	Screw (3 x 8 mm)	TPT + 3 x 8			
52(T1)	Transformer, Power	872127			
53(PL1)	Neon Lamp	897045			
54	Insulator Plate	893803			
56	Screw (2.6 x 6 mm)	FMT + 2.6 x 6			
57	Lug with Wire Assembly	898857			
58	Screw (2.6 x 15 mm)	M + 2.6 x 15			
59	Stroboscope	896863			
60	Stroboscope Holder	896864-3			
61	Pick-Up Assembly (includes : Cartridge)	851880			
62	5 Pin Lug Terminal	890979			
65	Shield Plate	890959			
66(MO1)	DC Motor Assembly	DDM-511-F66			
68	Bushing, AC Line Cord	871025			
69	Holder	894408			

REF. NO.	DESCRIPTION	PART NO.	ORDER Q'TY		
70	Cabinet Bottom	851884			
71	Screw (3.1 x 12 mm)	WBM + 3.1 x 12			
72	Foot	892778-3			
73 (P1)	Cord with DIN Plug	895891-1			
74	Screw (3 x 6 mm)	TP + 3 x 6			
75	Hexagon Nut (M3)	FN-M3			
76	Screw (3.1 x 16 mm)	WBM + 3.1 x 16			
77	Dust Cover	851883			
78	Plate	895231			
79	Hinge Assembly	895215			
80	Screw (4 x 8 mm)	T + 4 x 8			
81	Lock Plate	895259			
82	Screw (3.1 x 16 mm)	WFM + 3.1 x 16			
83	Turntable	620039			
84	EP Adaptor	890876			
85	Turntable Mat	871857			
86	Washer (4ϕ x 10ϕ x 0.8t)	FW4 x 10 x 0.8			
87	Screw (4 x 10 mm)	FMT + 4 x 10			
88	Foot Plate	872273			
89(SW1)	Microswitch	895430-1			
90(SO1)	AC Socket	898516			
91	Screw (3 x 12 mm)	BM + 3 x 12			
92	Pick-Up Base	851878			
93	Inside Force Cancel Name Plate	896449			
94	Inside Force Cancel Knob	896450			
95	Washer, I. F. C.	896452			
96	Washer, I. F. C.	896451			
97	Bushing, I. F. C.	871454			
98	Washer, I. F. C.	WASHER-IFC			
99	Screw (2 x 5 mm)	M2 x 5			
100	Lever, I. F. C.	871455			
101	Spring, I. F. C.	896454			
102	I. F. C. Cover	897596			
103	Screw (2 x 5 mm)	M2 x 5			
104	Screw (4 x 10 mm)	—4 x 10			
105	Cue Lever	872278			
106	Knob, Cue Lever	896456			
107	Bracket, Cue Lever	897597			
108	Screw (2 x 6 mm)	FMT + 2 x 6			
109	Cueing Arm	897595			
110	Spindle, Raising	897622-2			
111	Spring, Raising	832780			
112	Washer (3ϕ x 6ϕ x 0.5t)	FW3 x 6 x 0.5			
113	Raising Plate	893869			
114	Screw (2.6 x 4 mm)	FT — 2.6 x 4			
115	Screw (3 x 6 mm)	FMT + 3 x 6			
116	Cartridge (includes : Stylus)	5881-C331			
117	Stylus	4281-N331			

SHIN-SHIRASUNA ELECTRIC CORP., JAPAN

80.2 2000 P-04 1112-H000217 Printed in Japan